

- 1. See Standard Drawing E 610-DRIV-13 for General Notes and additional Legend.
- 2 See Standard Drawings E 604-SDWK-01 or E 604-SDWK-02 for sidewalk elevation transition details.
- 3. See Standard Drawings E 610-DRIV-03 for concrete curb and gutter connection detail.
- 4. See Standard Drawings E 610-DRIV-07 for PCCP joint placement detail.
- 5. Pavement shall be PCCP for Approaches, 6 in., on subgrade treatment Type IIIA.
- (6) See Standard Drawing E 610-DRIV-08 for sections A-A and B-B.
- 7. See Standard Drawing E 503-CCPJ-02 for longitudinal joint details.

LEGEND

- W = Width of sidewalk
- X = Distance between back face of curb to sidewalk.
- |Y| = Distance from front face of curb to |P| or R/W.
- = Sidewalk elevation transition.

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS I DRIVE

SEPTEMBER 2012

STANDARD DRAWING NO. E 610-DRIV-01



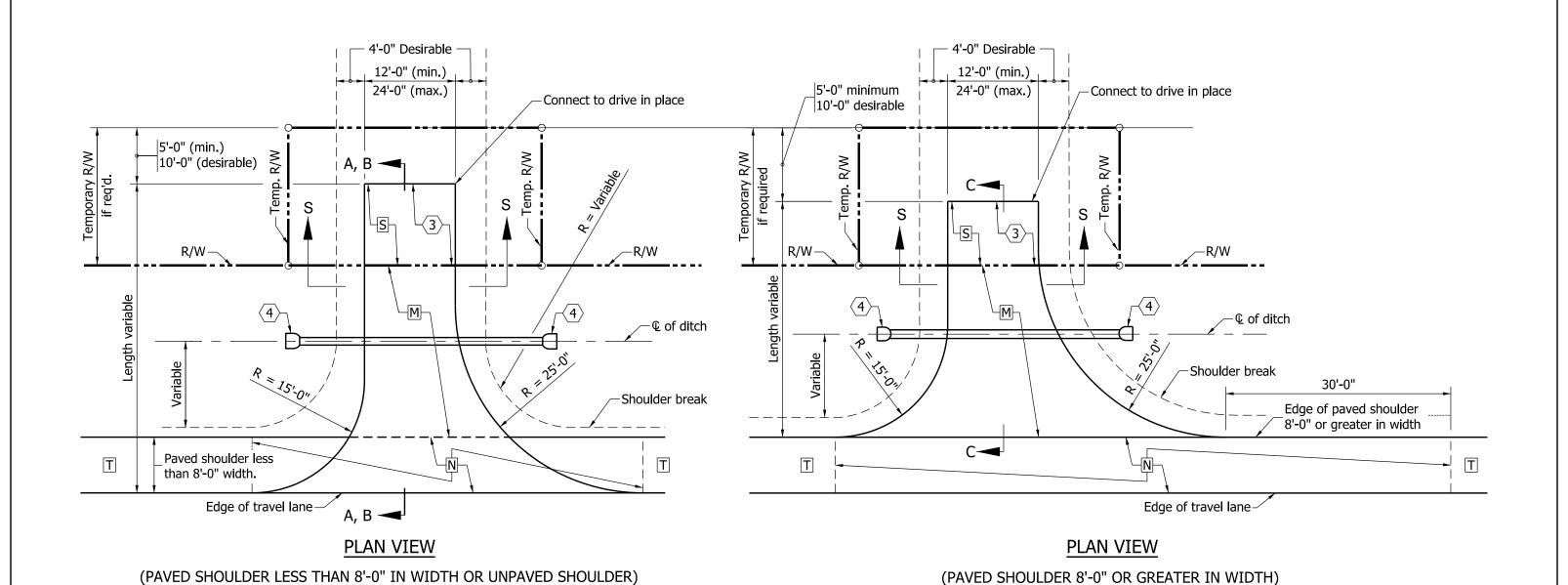
/s/ Richard L. VanCleave

SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12

09/04/12

CHIEF ENGINEER DATE



1. See Standard Drawing E 610-DRIV-13 for General Notes and additional Legend.

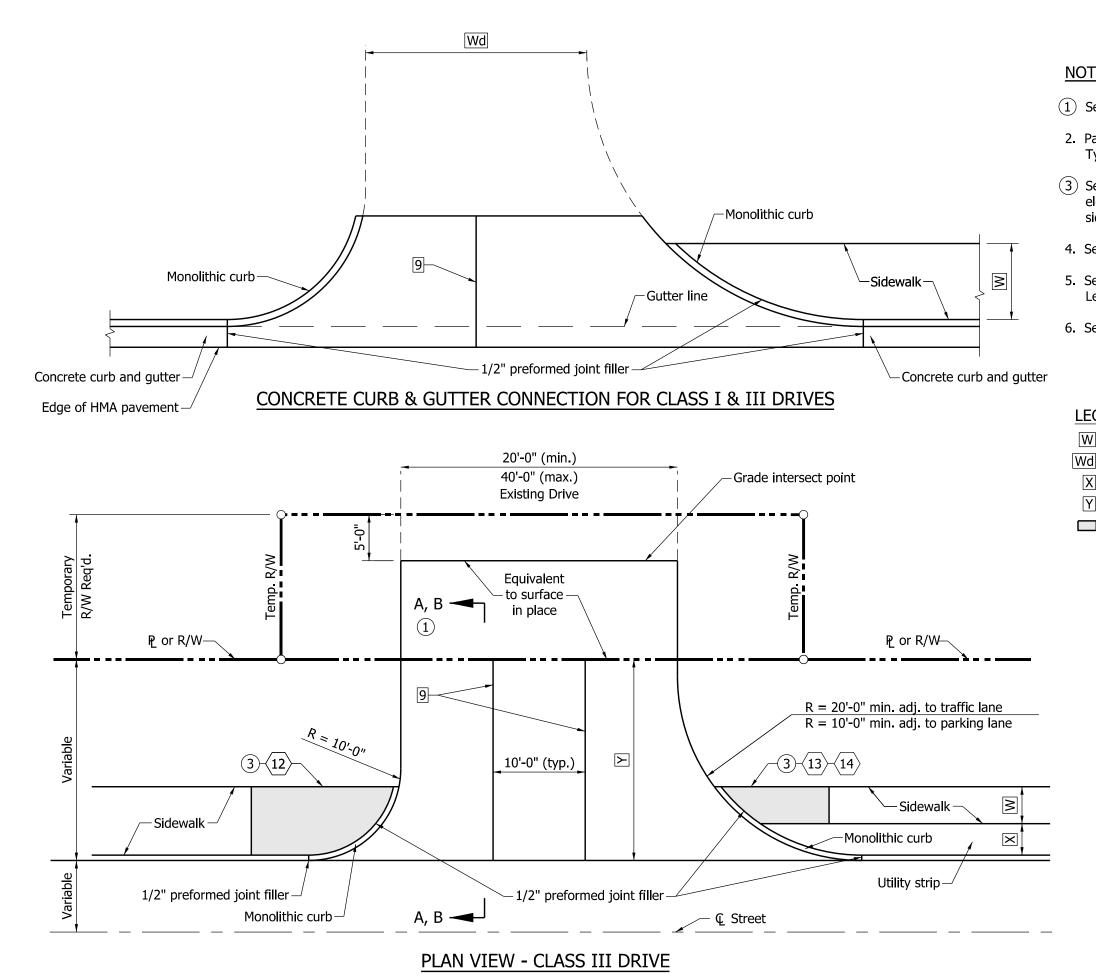
- 2. See Standard Drawings E 610-DRIV-10 for Sections A-A, B-B and C-C.
- 3. See Standard Drawings E 610-DRIV-10 for approach grades.
- 4. See Standard Drawings E 610-DRIV-09 for Section S-S.

LEGEND

- M HMA for Approaches:

 165#/syd HMA Surface Type B on
 385#/syd HMA Intermediate Type B on
 subgrade treatment Type IIIA
 or
 PCCP for Approaches, 6",
 subgrade treatment Type IIIA
- $\overline{\mathbb{N}}$ The greater thickness of either the drive $\overline{\mathbb{M}}$ or the paved shoulder $\overline{\mathbb{T}}$ section.
- T Plan shoulder section.
- S For type and thickness equivalent to surface in place, see plans.

INDIANA DEPARTMENT OF TRANSPORTATION		
CLASS II DRIVE SEPTEMBER 2010		
STANDARD DRAWING NO. E 610-DRIV-02		
DESIGN STANDARDS ENGINEER	/s/ Richard L. VanCleave DESIGN STANDARDS ENGINEER /s/ Mark A. Miller CHIEF HIGHWAY ENGINEER	09/01/10 DATE 09/01/10 DATE
DESIGN STANDARDS ENGINEER		DATE



- (1) See Standard Drawing E 610-DRIV-08 for Section A-A, and Section B-B.
- 2. Pavement shall be PCCP for Approaches, 9 in., on subgrade treatment Type IIIA.
- (3) See Standard Drawings E 604-SDWK-01 or E 604-SDWK-02 for sidewalk elevation transition details, or Standard Drawing E 604-SWCR-09 for sidewalk curb ramp details if the drive is signalized.
- 4. See Standard Drawing E 610-DRIV-07 for joint placement details.
- 5. See Standard Drawing E 610-DRIV-13 for General Notes and additional
- 6. See Standard Drawing 503-CCPJ-02 for longitudinal joint details.

LEGEND

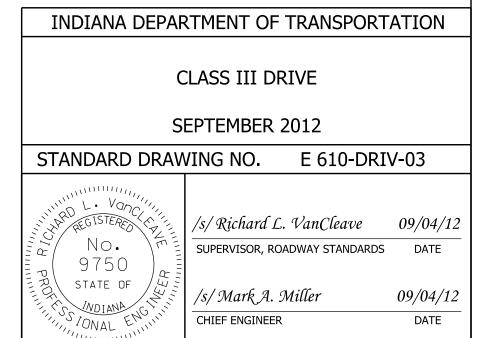
W = Width of sidewalk

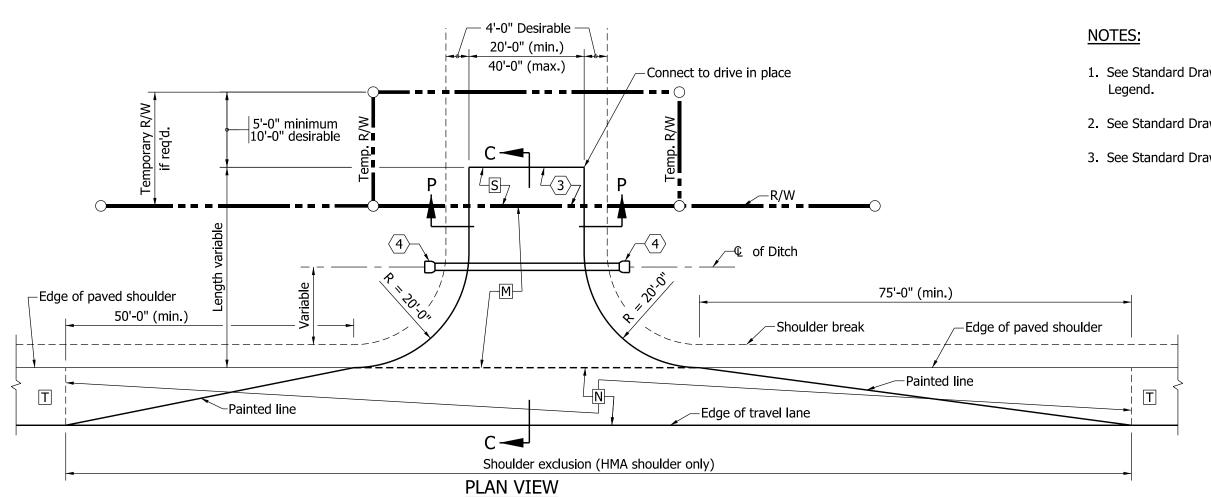
Wd = Driveway width

|X| = Distance between back face of curb and sidewalk

Y = Distance from front face of curb to P or R/W

= Sidewalk elevation transition





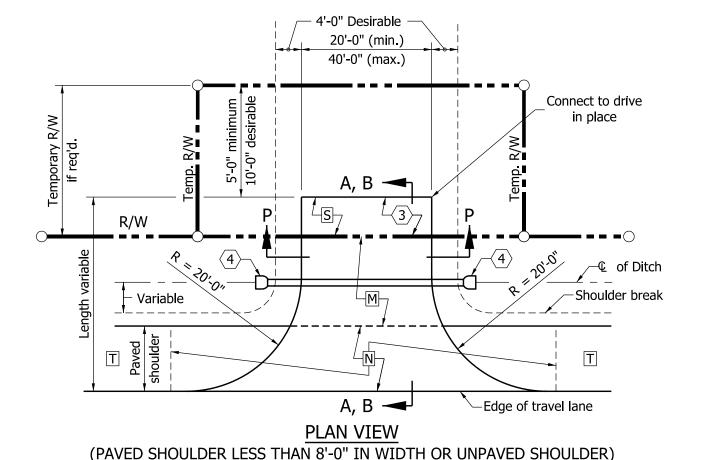
- 1. See Standard Drawing E 610-DRIV-13 for General Notes and additional Legend.
- 2. See Standard Drawings E 610-DRIV-10 for Sections A-A, B-B and C-C.
- 3. See Standard Drawings E 610-DRIV-09 for Section P-P.

LEGEND

M HMA for Approaches:
165#/syd HMA Surface Type B on
275#/syd HMA Intermediate Type B on
880#/syd HMA base, Type B on
subgrade treatment Type IIIA

PCCP for Approaches, 9", on subgrade treatment Type IIIA

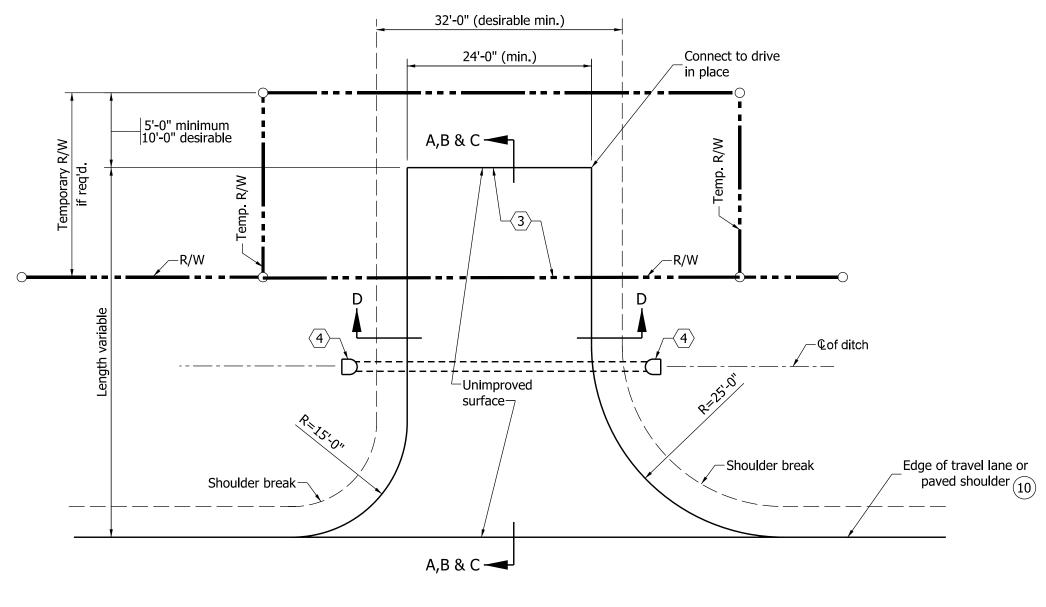
- $\overline{\mathbb{N}}$ The greater thickness of either the drive $\overline{\mathbb{M}}$ or the paved shoulder $\overline{\mathbb{T}}$ section.
- T Plan shoulder section.
- S For type and thickness equivalent to surface in place, see plans.



(PAVED SHOULDER 8'-0" FEET OR GREATER IN WIDTH)

INDIANA DEPARTMENT OF TRANSPORTATION **CLASS IV DRIVE** SEPTEMBER 2010 STANDARD DRAWING NO. E 610-DRIV-04 NO. /s/Richard L. VanCleave 09/01/10 DESIGN STANDARDS ENGINEER DATE 9750 STATE OF C'S WOIANA ROTHING /s/ Mark A. Miller 09/01/10 CHIEF HIGHWAY ENGINEER DATE

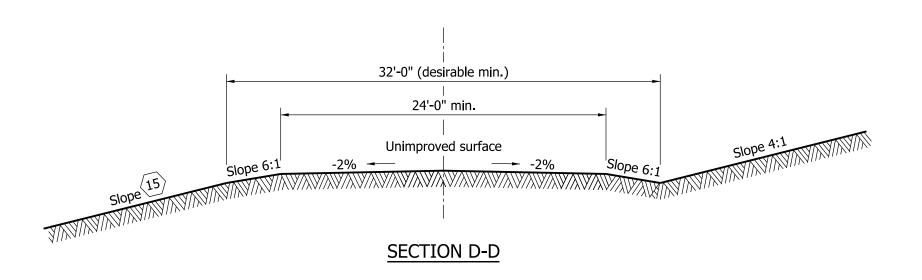
DESIGN STANDARDS ENGINEER



Notes:

- 1. See Standard Drawing E 610-DRIV-13 for General Notes.
- 2. See Standard Drawing E 610-DRIV-10 for Section A-A, B-B and C-C.
- (10) Where the shoulder is earth or aggregate or the paved width is less than 8'-0", the drive radii shall be tangent to the edge of the travel lane. Where the paved shoulder width is 8'-0" or more, the drive radii shall be tangent to the edge of the paved shoulder.

PLAN VIEW

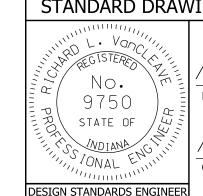


INDIANA DEPARTMENT OF TRANSPORTATION

CLASS V DRIVE FIELD ENTRANCE

SEPTEMBER 2010

STANDARD DRAWING NO. E 610-DRIV-05



/s/Richard L. VanClaeve

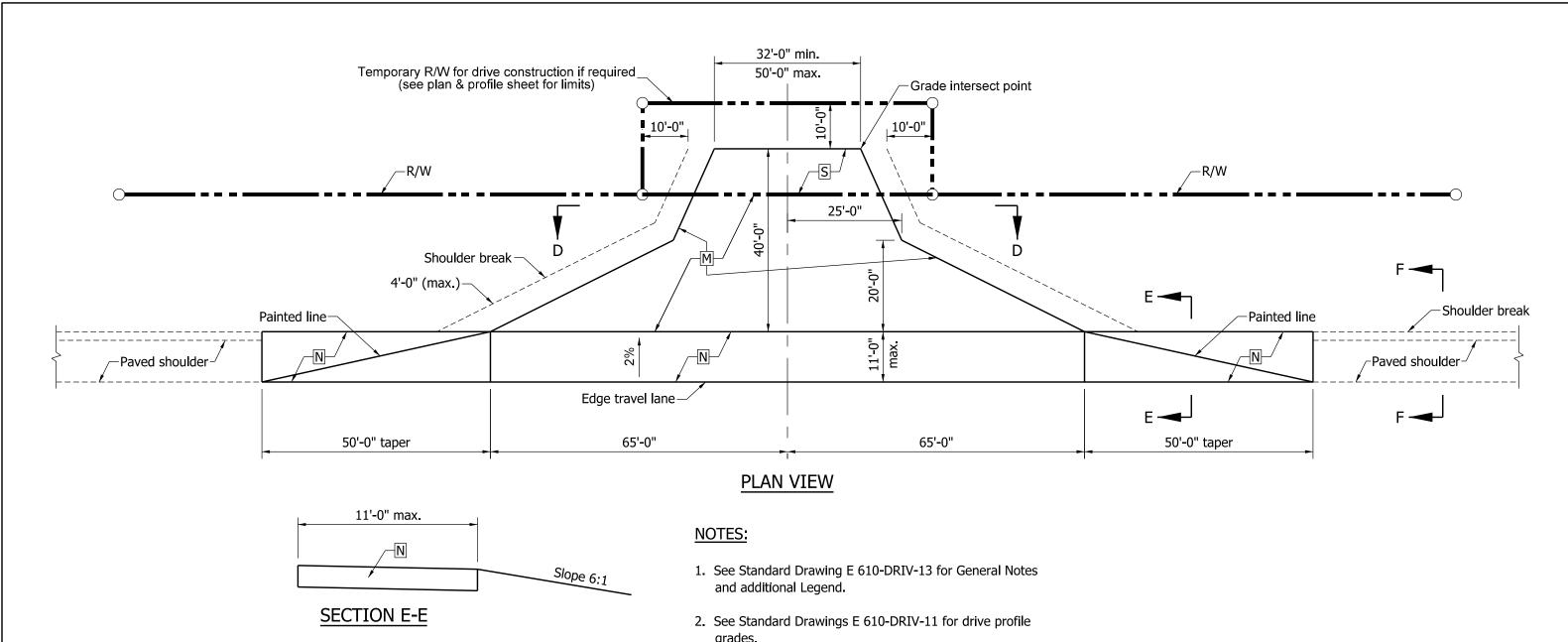
DESIGN STANDARDS ENGINEER

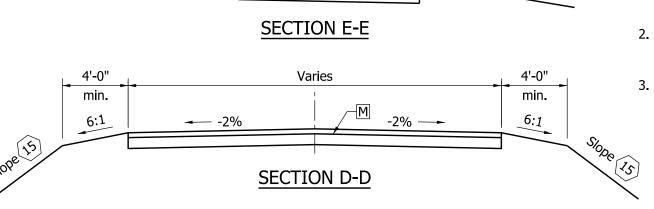
/s/ Mark A. Miller 09/01/10

09/01/10

DATE

CHIEF HIGHWAY ENGINEER DATE





11'-0" max 10'-0" max. HMA shoulder section specified in plans Shoulder break Slope 6:1 SECTION F-F

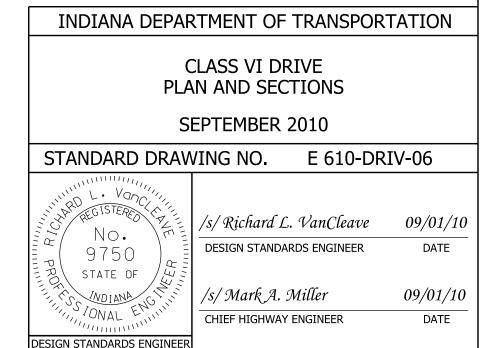
- 3. Class VI Drive accommodates a WB-65 (IDV) design vehicle with a 45'-0" turning radius.

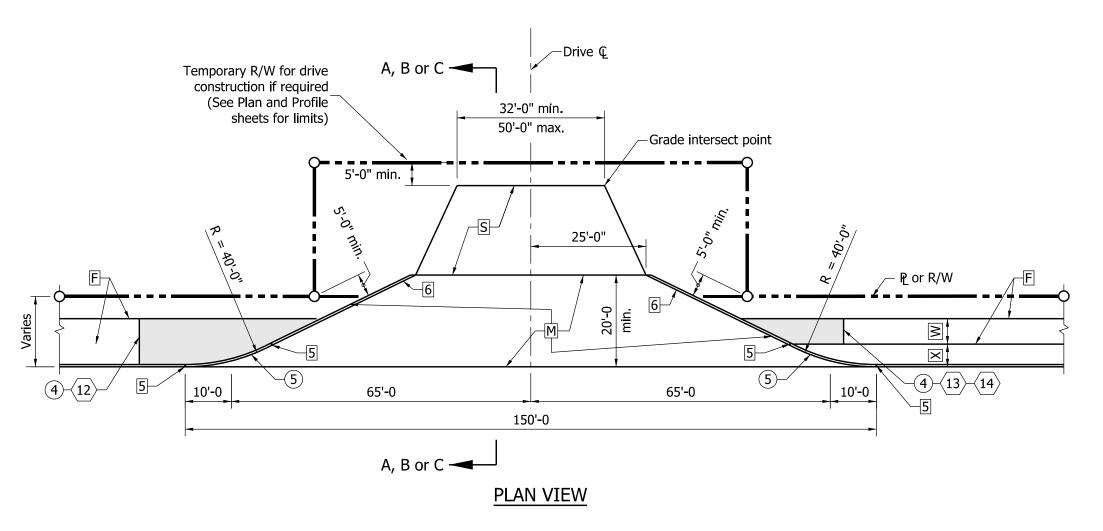
LEGEND

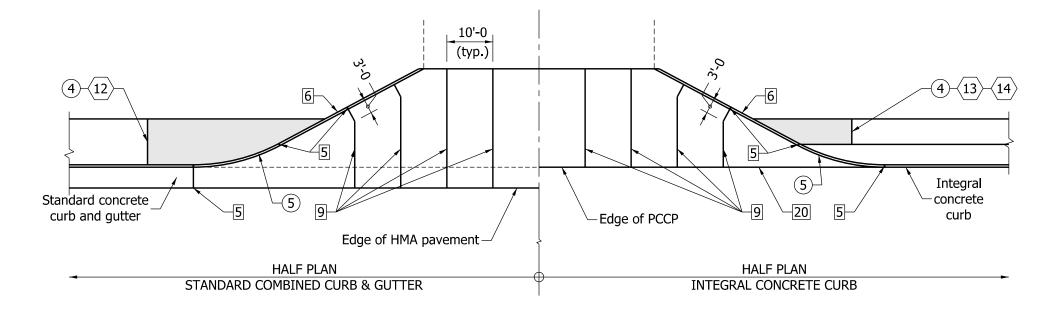
M HMA for Approaches: 165#/syd HMA Surface Type B on 275#/syd HMA Intermediate Type B on 880#/syd HMA base, Type B on subgrade treatment Type IIIA

PCCP for Approaches, 9", on subgrade treatment Type IIIA

- N The greater thickness of either the drive M or the paved shoulder section.
- S For type and thickness equivalent to surface in place, see plans.







JOINT PLACEMENT DETAIL FOR PCCP DRIVES

NOTES:

- 1. See Standard Drawings E 610-DRIV-13 for General Notes and additional Legend.
- 2. See Standard Drawing E 610-DRIV-12 for sections A-A, B-B and C-C
- 3. Joint Placement Detail should be used with Class I, III and VII drives.
- 4 See Standard Drawing E 604-SDWK-01 or E 604-SDWK-02 for sidewalk elevation transition details.
- (5) See Standard Drawing E 610-DRIV-16 for details and corners.
- 6. See Standard Drawing 503-CCPJ-02 for longitudinal joint details.

LEGEND

M HMA for Approaches: 165#/syd HMA Surface Type B on 275#/syd HMA Intermediate Type B on 880#/syd HMA base, Type B on subgrade treatment Type IIIA or

PCCP for Approaches, 9 in., on subgrade treatment Type IIIA

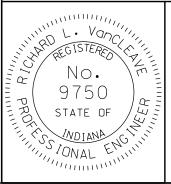
- □ Sidewalk elevation transition
- S For type and thickness equivalent to surface in place, see plans.

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS VII DRIVE AND JOINT PLACEMENT DETAIL

SEPTEMBER 2012

STANDARD DRAWING NO. E 610-DRIV-07



/s/ Richard L. VanCleave

09/04/12

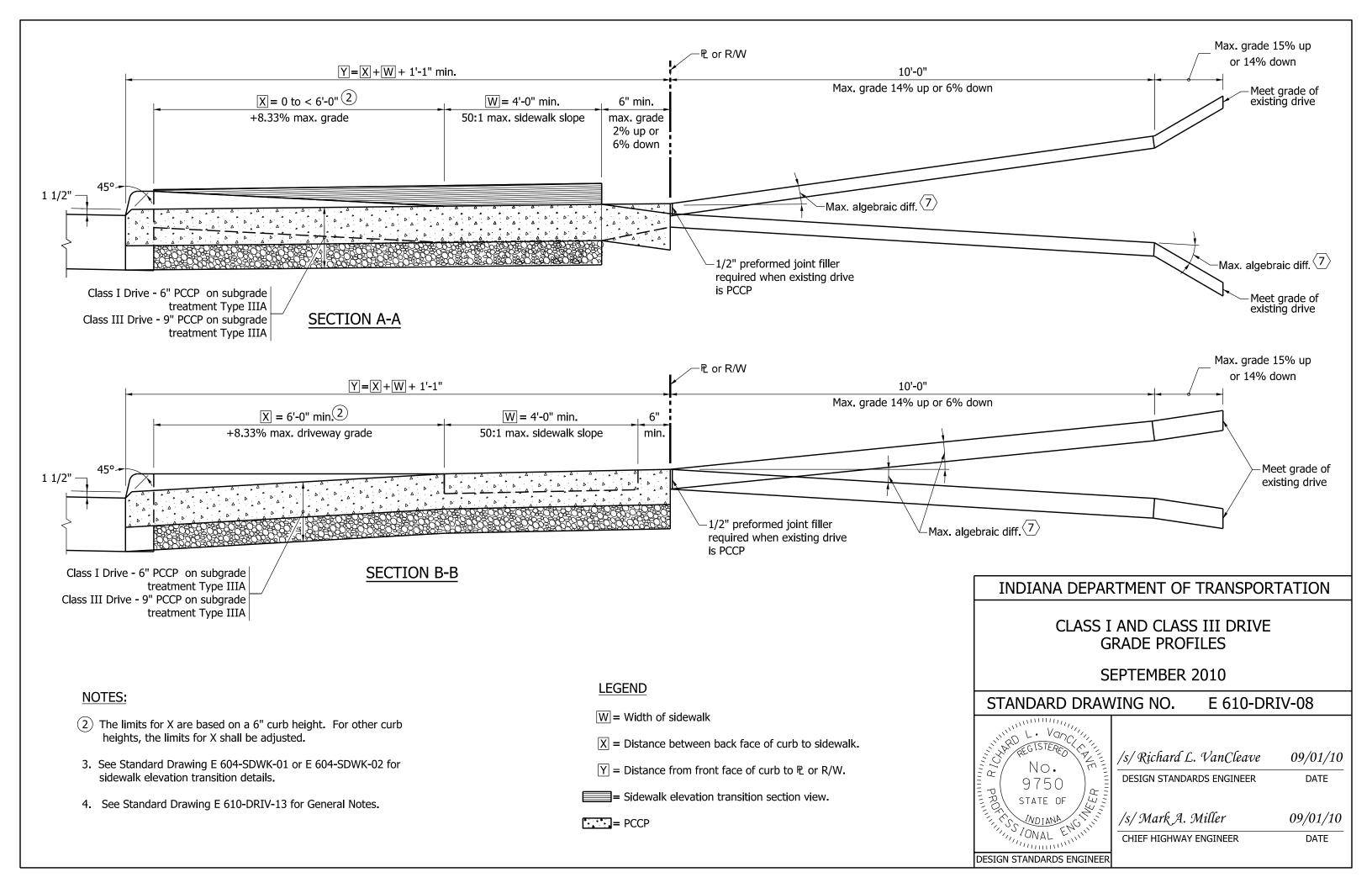
SUPERVISOR, ROADWAY STANDARDS

/s/ Mark A. Miller

09/04/12

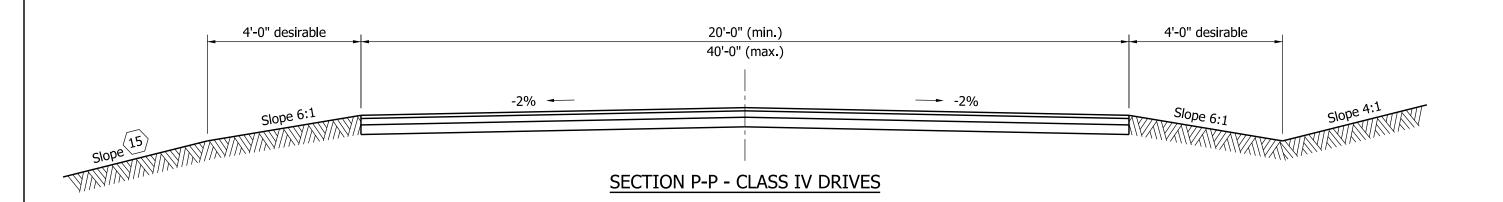
CHIEF ENGINEER

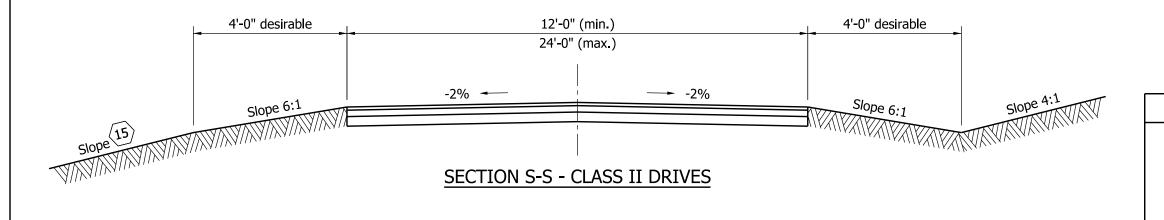
DATE



Notes:

- 1. See Standard Drawing E 610-DRIV-02 for Class II Drive details.
- 2. See Standard Drawing E 610-DRIV-04 for Class IV Drive details.
- 3. See Standard Drawing E 610-DRIV-13 for General Notes.

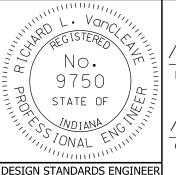




INDIANA DEPARTMENT OF TRANSPORTATION

CLASS II AND CLASS IV SECTIONS

SEPTEMBER 2010



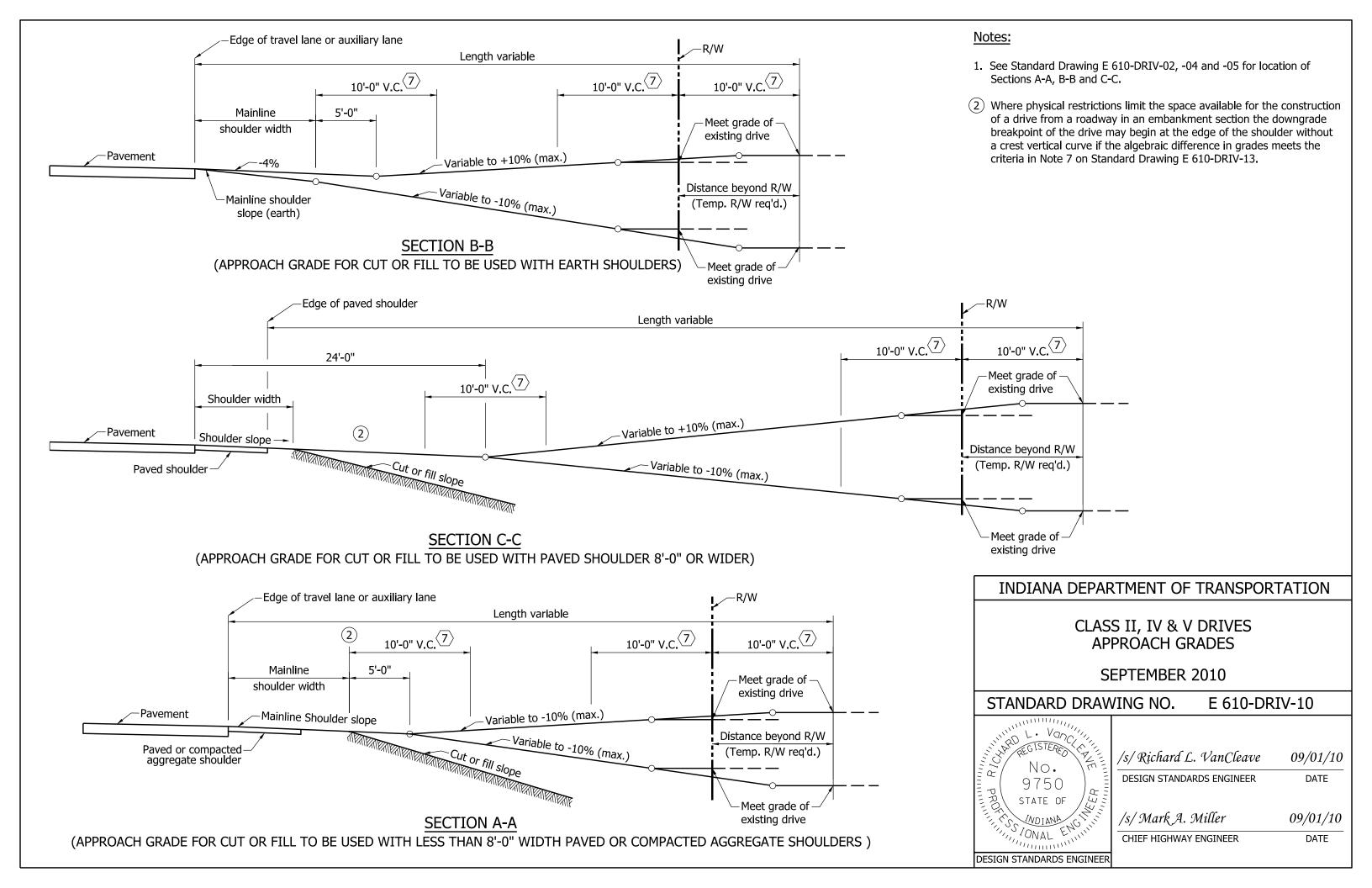
/s/ Richard L. VanCleave

DESIGN STANDARDS ENGINEER

eve 09/01/10 ER DATE

/s/ Mark A. Miller 09/01/10

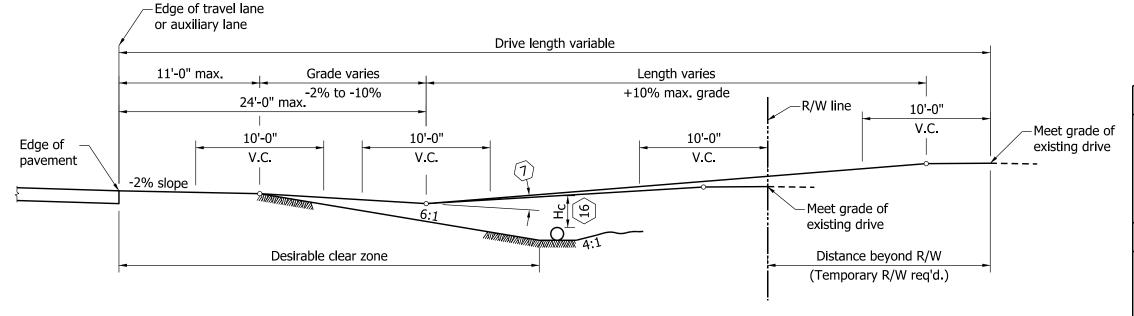
CHIEF HIGHWAY ENGINEER



-Edge of travel lane or auxiliary lane Drive length variable 11'-0" max. Grade varies Length varies -10% max. grade -2% to -10% 24'-0" max. 10'-0" 10'-0" Edge of V.C. V.C. pavement -R/W line -2% slope 10'-0" 10'-0" V.C. V.C. Meet grade of existing drive Desirable clear zone Meet grade of 16existing drive Distance beyond R/W (Temporary R/W req'd.) TYPICAL PROFILE GRADE IN FILL

NOTES

- 1. See Standard Drawing E 610-DRIV-06 for plan and sections of Class VI Drive.
- 2. See Standard Drawings E 610-DRIV-13 for General Notes.



TYPICAL PROFILE GRADE IN CUT

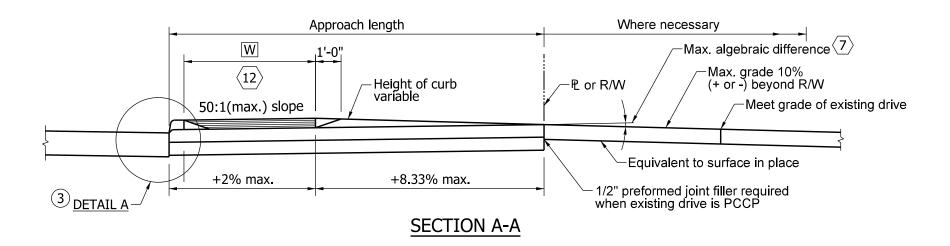
INDIANA DEPARTMENT OF TRANSPORTATION **CLASS VI DRIVE** TYPICAL PROFILE GRADES SEPTEMBER 2010 STANDARD DRAWING NO. E 610-DRIV-11 NO. /s/Richard L. VanCleave 09/01/10 DESIGN STANDARDS ENGINEER DATE 9750 STATE OF WOLANA COLONIA

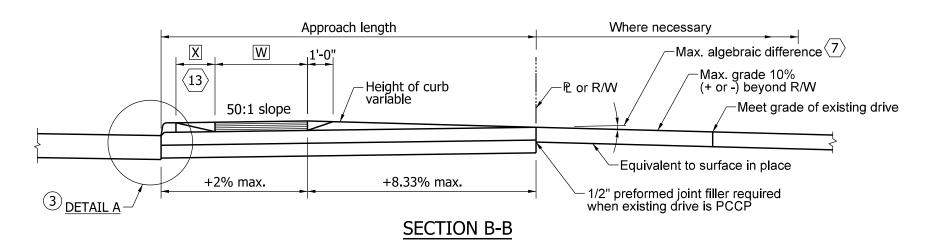
/s/ Mark A. Miller

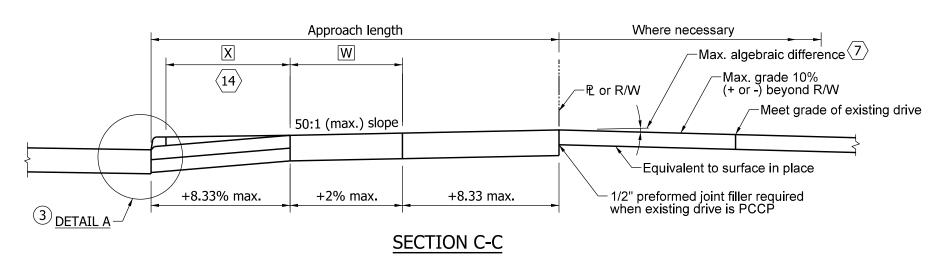
DESIGN STANDARDS ENGINEER

CHIEF HIGHWAY ENGINEER

09/01/10







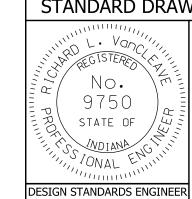
- 1. See Standard Drawing E 610-DRIV-07 for plan of Class VII Drive.
- 2. See Standard Drawings E 610-DRIV-13 for General Notes.
- (3) See Standard Drawing E 610-DRIV-16 for keyway joint shown in Detail A and for joint placement and corner reinforcement.

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS VII DRIVE PROFILE GRADE

SEPTEMBER 2010

STANDARD DRAWING NO. E 610-DRIV-12



/s/Richard L. VanCleave

09/01/10

DESIGN STANDARDS ENGINEER

DATE

/s/ Mark A. Miller CHIEF HIGHWAY ENGINEER 09/01/10

DESIGN STANDARDS ENGINEER

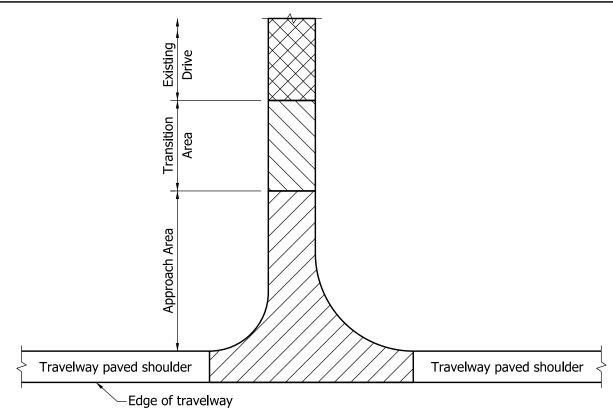
GENERAL NOTES

- 1. These notes apply to Standard Drawings E 610-DRIV-01 through 12.
- If a PCCP approach is Class III or Class IV, the radii shall be constructed using ear construction Type C as detailed on Standard Drawing E 605-ERCN-02.
- When the maximum approach grade of $\pm 10\%$ does not meet the grade of the existing drive before the R/W line, the approach grade of $\pm 10\%$ shall extend beyond the R/W to the point of intersection with the existing driveway grade. Construction beyond the R/W line shall be done in temporary R/W.
- The appropriate pipe end treatment should be provided for pipes located either inside the clear zone or outside the clear zone.
- 7 The maximum algebraic difference in grades shall not exceed 8% for crested grade nor 12% for sagged grades for Types I and III drives, nor 11% for crested grade and 14% for sagged grades for Types II, IV, and V drives.
- (8) The minimum driveway pavement sections for Class III, IV, VI and VII Drives have been designed for 400 trucks per day. If the truck traffic count is greater than 400 per day, the required pavement section shall be as shown elsewhere on the plans.
- 11. See Standard Drawing E 610-DRIV-14 for shoulder treatment at driveways.
- Curb Ramp Type H, as shown on Standard Drawing E 604-SWCR-09, when the approach is signalized, or a sidewalk elevation transition as shown on Standard Drawing E 604-SDWK-02 shall be used when sidewalk is adjacent to curb.
- When X is equal to or greater than 2 ft but less than 6 ft, either a Curb Ramp Type G as shown on Standard Drawing E 604-SWCR-09, when the approach is signalized, or a sidewalk elevation transition as shown on Standard Drawing E 604-SDWK-01 shall be used.
- When X is equal to or greater than 6 ft, no curb ramp or sidewalk elevation transition is required unless the curb height is in excess of 6 inches.
- Embankment slopes within the mainline clear zone for new construction/reconstruction projects or within the obstruction-free zone for 3R projects should be as shown in the table on Standard Drawing E 610-PRAP-04. Outside the clear zone or the obstruction-free zone, the embankment slopes should desirably be 4:1 but not steeper than 3:1.
- $\langle 16 \rangle$ H_C earth cover over culvert shall be 1 foot or greater.

LEGEND

- 5 1/2 in. preformed joint filler
- Monolithic curb for PCCP Approaches or conrete curb and gutter for HMA for Approaches.
- 9 Longitudinal joint
- F Concrete sidewalk
- S For type and thickness equivalent to surface in place, see plans.
- 20 Keyway construction joint

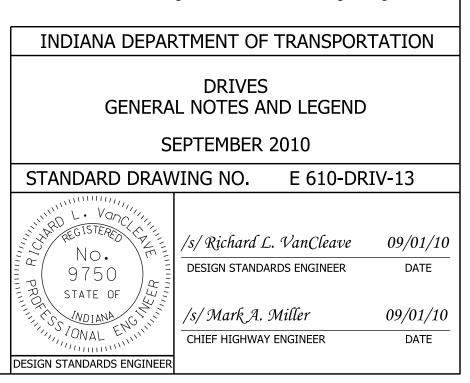
- |X| = Distance between back face of curb and sidewalk.
- W = Width of sidewalk
- PCCP
- Curb ramp, if signalized, or typically, sidewalk elevation transition.
- Curb ramp or sidewalk elevation transition section view.

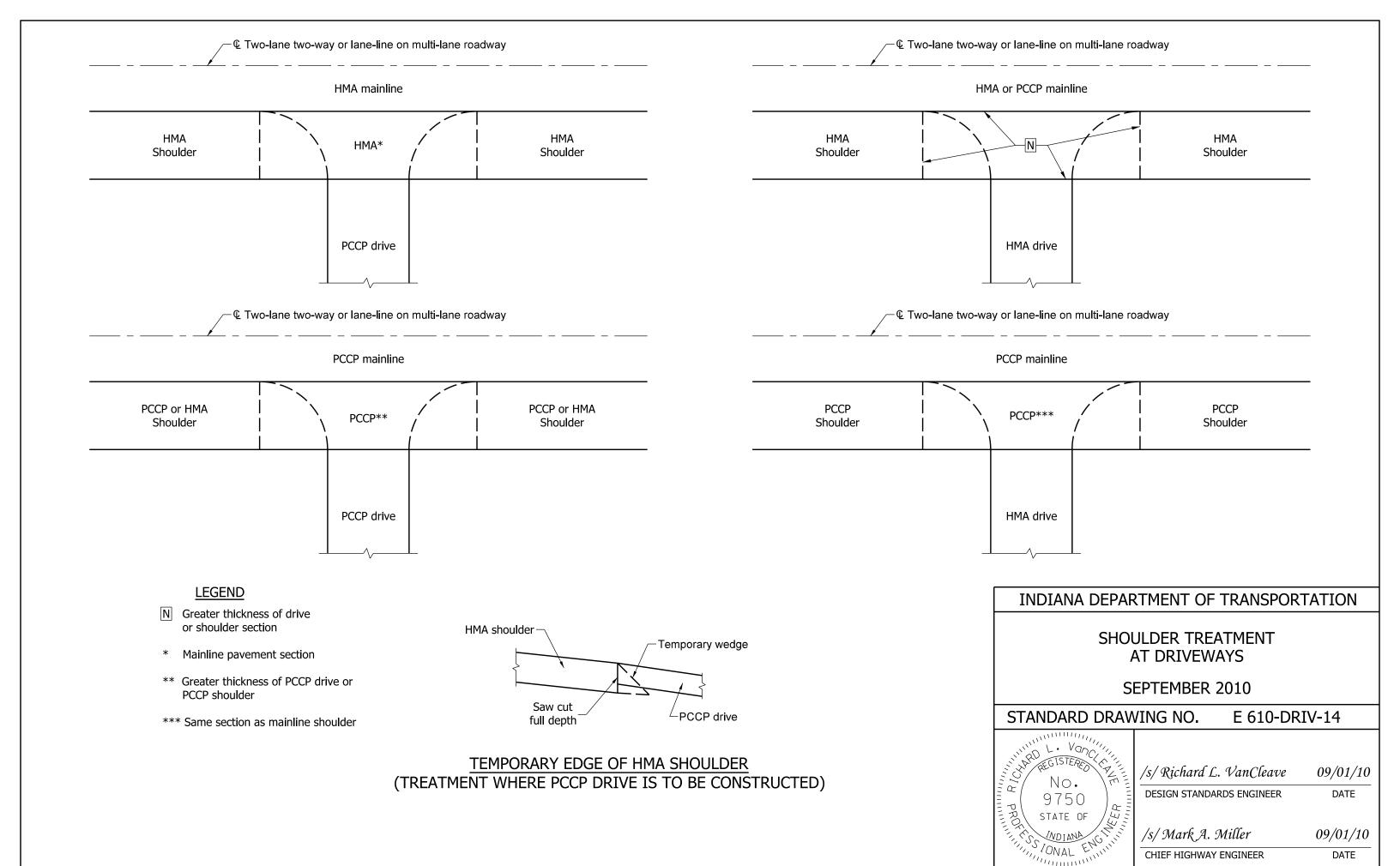


TYPE I, II, III, IV, VI AND VII DRIVES

NOTES

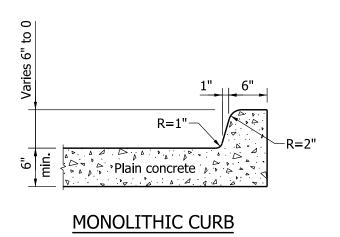
- 1. The pay limits shown hereon generally apply to Type I, II, III, IV, VI and VII Drives as shown on Standard Drawings E 610-DRIV-01, -02, -03, 04, -06 and -07 respectively.
- 2. Approach Area HMA for Approaches or PCCP for Approaches. This area typically extends from the edge of an 8 foot or wider paved travelway shoulder to the right of way or property line or within a few feet of the right of way or property line where the new drive meets the grade of the existing drive, depending on the site-specific conditions. Where the travelway paved shoulder width is less than 8 feet, this area will be measured from the edge of travelway.
- 3. Transition Area an equivalent pavement section to the existing drive. This area typically extends from the right of way or property line to a point on the property owner's drive where the new drive grade can match the existing drive grade.

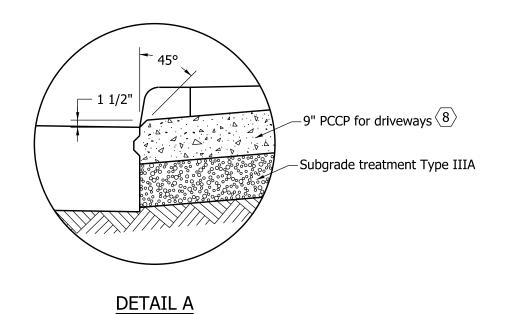




CHIEF HIGHWAY ENGINEER

DESIGN STANDARDS ENGINEER





3-#5 x 15'-6" (Place at middepth of pavement) 3 1/4"

1-#5 x 19'-0" —Place at middepth of pavement 8'-0"

COMBINED CURB & GUTTER

INTEGRAL CONCRETE CURB

TYPICAL CORNER REINFORCING

NOTES

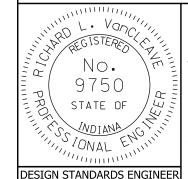
- 1. See Standard Drawing E 610-DRIV-07 for plan and Standard Drawing E 610-DRIV-12 for profile of Class VII drive.
- 2. See Standard Drawings E 610-DRIV-13 for General Notes and additional Legend.
- 3. See Standard Drawing E 610-DRIV-07 for keyway joint shown in Detail A and for joint placement and corner reinforcement.
- 4. See Standard Drawing E 605-ERCN-01 for ear construction Type A. See Standard Drawing E 605-ERCN-02 for ear construction Type B.

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS VII DRIVE JOINT PLACEMENT AND CORNERS

SEPTEMBER 2010

STANDARD DRAWING NO. E 610-DRIV-16



/s/Richard L. VanCleave

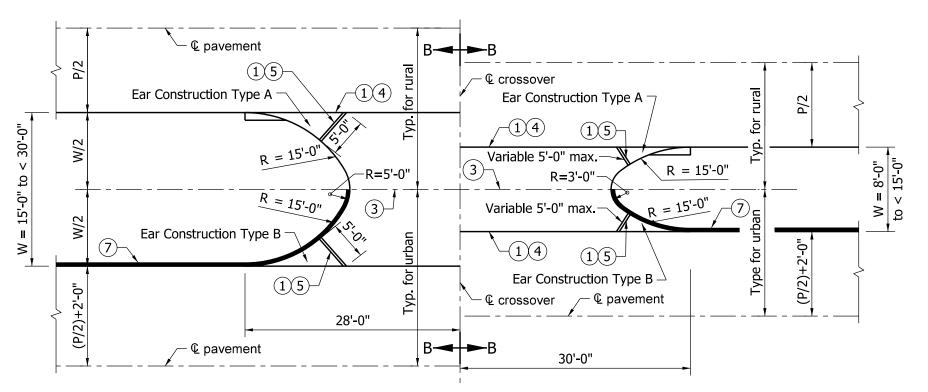
ve 09/01/10

DESIGN STANDARDS ENGINEER

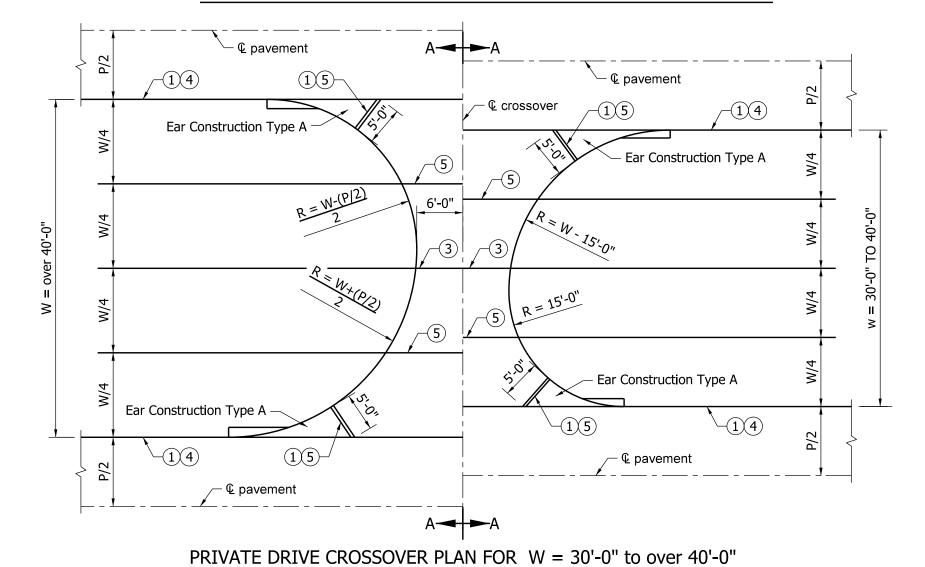
/s/ Mark A. Miller 09/01/10

CHIEF HIGHWAY ENGINEER

DATE



PRIVATE DRIVE CROSSOVER PLAN FOR W = 8'-0" to less than 30'-0"



Notes:

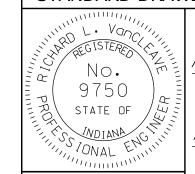
- 1 Thickened edge
- 2. See Standard Drawings: E 605-ERCN-01 for TYPE "A" Ear Construction E 605-ERCN-02 for TYPE "B" Ear Construction E 610-DRIV-18 for sections A-A and B-B
- (3) Contraction Joint Type D-1, see Standard Drawing E 503-CCPJ-01 for details.
- (4) Keyway Construction Joint, see Standard Drawing E 610-DRIV-16 for details.
- (5) 1" Preformed Joint Filler.
- 6. Private drive crossovers shall be constructed of HMA or PCCP as shown on the plans section unless otherwise directed.
- (7) Integral Concrete Curb, see Standard Drawing E 605-CCIN-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

PRIVATE DRIVE CROSSOVER **PLANS**

SEPTEMBER 2010

STANDARD DRAWING NO. E 610-DRIV-17



/s/Richard L. VanCleave

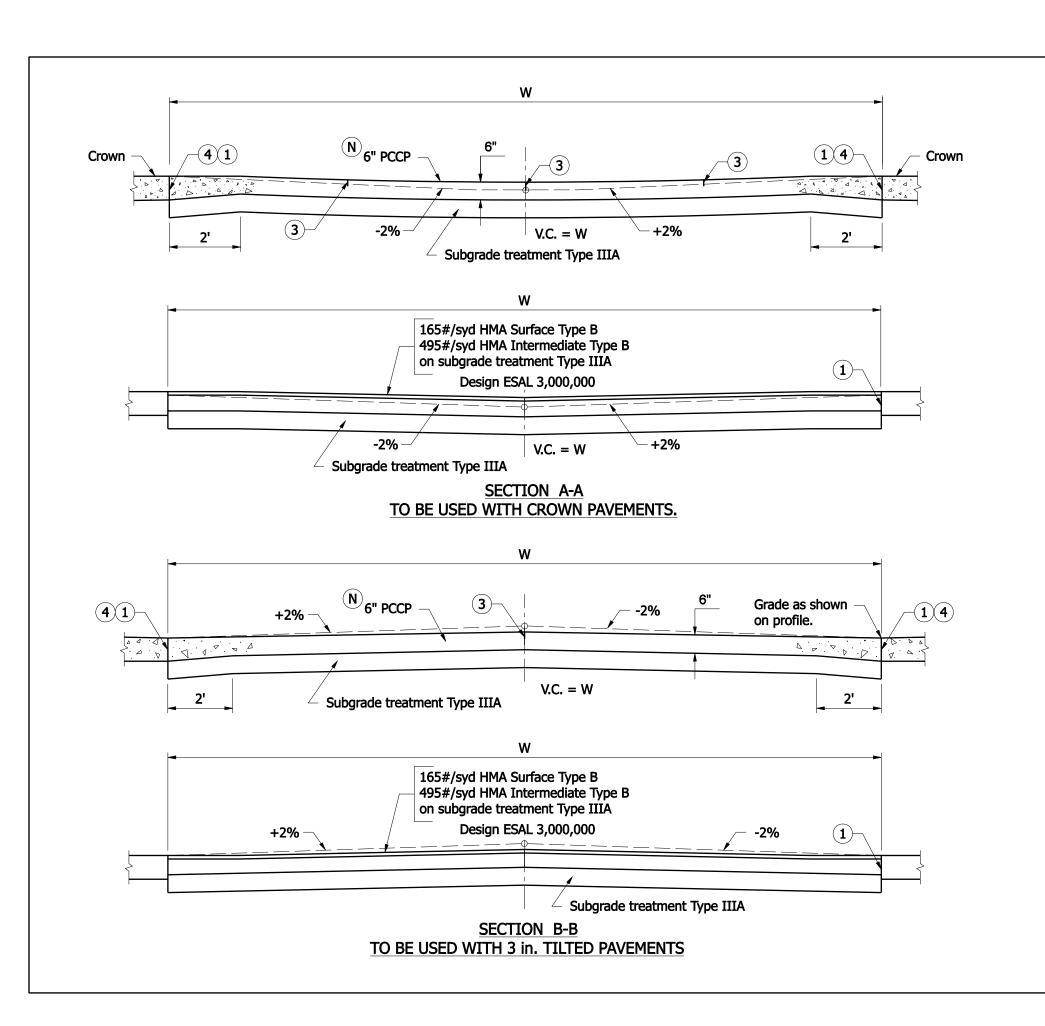
09/01/10 DESIGN STANDARDS ENGINEER DATE

DATE

/s/ Mark A. Miller 09/01/10

CHIEF HIGHWAY ENGINEER

DESIGN STANDARDS ENGINEER



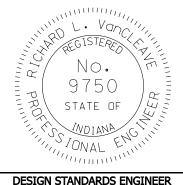
- (N) Private drive crossover shall be constructed of HMA or PCCP as shown on the plans, unless otherwise directed.
- 1 Thickened edge to be same thickness as mainline pavement.
- 2. For location of cross sections see Standard Drawing E 610-DRIV-17.
- (3) Contraction joint type D-1, see Standard Drawing E 501-CCPJ-06 for details, and Standard Drawing E DRIV-17 for spacing.
- (4) Keyway construction joint, see Standard Drawing E 610-DRIV-16 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

PRIVATE DRIVE CROSSOVERS **CROSS SECTIONS**

SEPTEMBER 2007

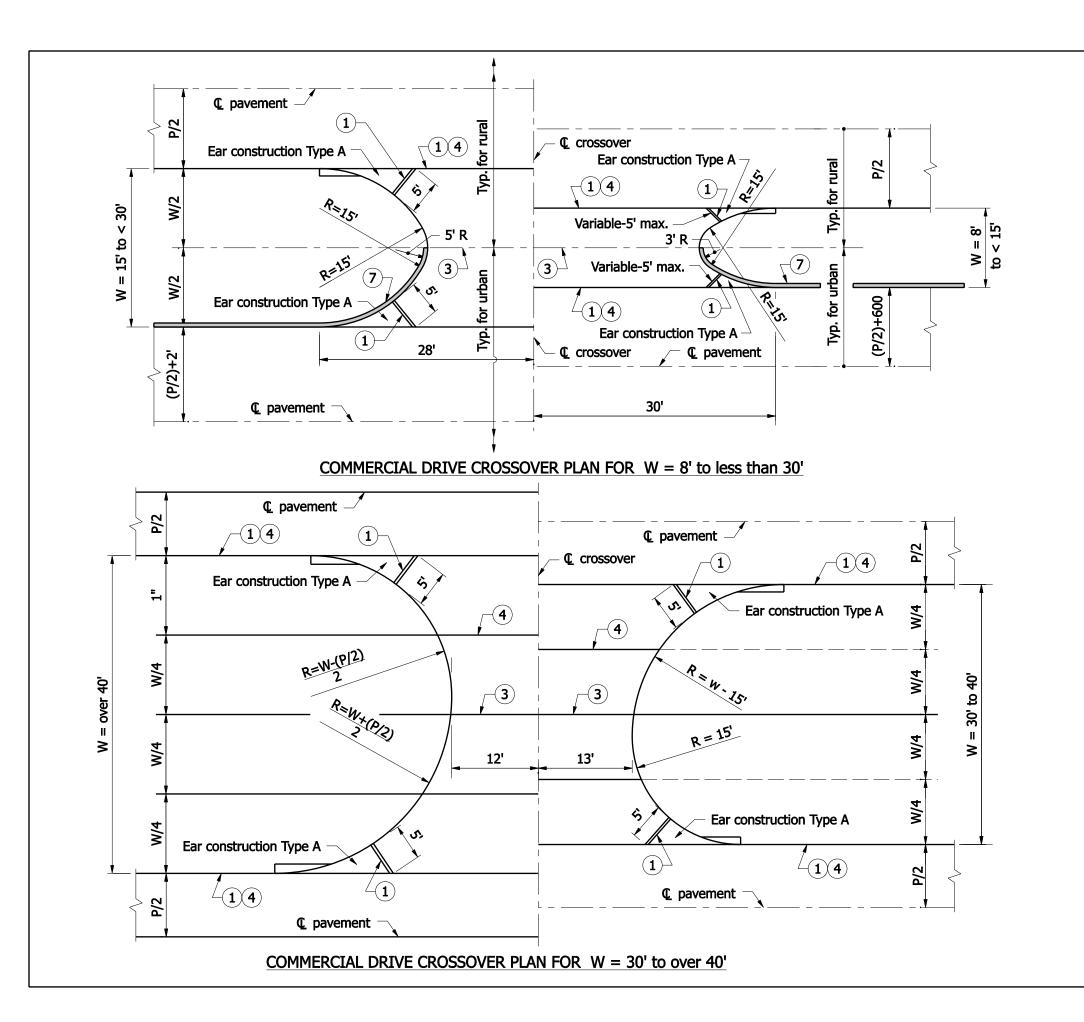
STANDARD DRAWING NO. E 610-DRIV-18



/s/Richard L. VanCleave **DESIGN STANDARDS ENGINEER**

09/04/07 DATE

/s/ Mark A. Miller CHIEF HIGHWAY ENGINEER 09/04/07 DATE



- (1) Thickened edge
- 2. See Standard Drawings: E 605-ERCN-01 for TYPE "A" ear construction E 605-ERCN-02 for TYPE "B" ear construction
- (3) Contraction joint type D-1, see Standard Drawing E 503-CCPJ-01 for details.
- (4) Keyway construction joint see Drawing E 610-DRIV-16 for details.
- 6. Grade for commercial drive crossover shall be the same as for private drive crossover. For cross sections see Standard Drawing E 610-DRIV-18, except the PCCP thickness shall be 9 in.
- (7) Integral concrete curb, see Standard Drawing E 605-CCIN-01 for details.
- 8. Commercial drive crossover shall be constructed of HMA or PCCP as shown on the plans, unless otherwise directed by the Engineer.

INDIANA DEPARTMENT OF TRANSPORTATION

COMMERCIAL DRIVE CROSSOVERS PLANS

SEPTEMBER 2007

STANDARD DRAWING NO. E 610-DRIV-19



/s/Richard L. Van Cleave **DESIGN STANDARDS ENGINEER**

09/04/07 DATE

/s/ Mark A. Miller CHIEF HIGHWAY ENGINEER 09/04/07 DATE

